such that the β-strand-forming section of peptide comprises an alternating sequence of Nα-substituted and Nα-unsubstituted α-L-amino-acid residues.

4. (amended) A chemical compound or composition according to claim 1 wherein the Nα-substituent of each Nα-substituted α-L-amino-acid residue in the β-strand-forming section of peptide sterically allows or promotes the β-strand-forming section of peptide to form a β-strand, and sterically hinders the association of the said second edge of that β-strand with another β-strand.

6. (amended) A chemical compound or composition according to claim 4, wherein the Nα-substituent of each Nα-substituted α-L-amino-acid residue in the β-strand-forming section of peptide is selected from the group consisting of:

a fluorine atom or an OH group;

a group that is connected to the Nα atom by an oxygen atom within it;

a group that is connected to the Nα atom by a CH_2 subgroup within it;

a methyl or ethyl group, or some other alkyl or aliphatic group;

a substituted or unsubstituted benzyl group, or some other arylmethyl group;

an acetylated or acylated 2-hydroxy-4-methoxybenzyl (AcHmb) group; and

an acylated or unacylated 2-hydroxybenzyl (AcHb/Hb) group.

7. (amended) A chemical compound or composition according to claim 1, wherein the side chain of each α-L-amino-acid residue in the β-strand-forming section of peptide allows or promotes the β-strand forming section of peptide to form a β-strand.

10. (amended) A chemical compound or composition according to claim 7, wherein the side chain of one or more α-L-amino-acid

residues in the β-strand forming section of peptide is selected from the group consisting of:

a hydrophobic group, or a group that has a considerable hydrophobic portion;

a branched or unbranched alkyl or aliphatic group;

a group that is branched at its connecting β-carbon atom;

an aromatic group;

an acidic or basic group; and

an amide- or hydroxyl-containing group.

11. (amended) A chemical compound or composition according to claim 1, wherein the side chain of one or more α-L-amino-acid residues in the β-strand-forming section of peptide hinders the stacking of β-sheets.

13. (amended) A chemical compound or composition according to claim 1, wherein the side chain of one or more α-L-amino-acid residues in the β-strand-forming section of peptide allows the compound or composition to be traced or detected.

15. (amended) A chemical compound or composition according to claim 1, wherein the side chain of one or more α-L-amino-acid residues in the β-strand-forming section of peptide is selected from the group consisting of the side chain of:

any naturally occurring α-L-amino-acid or synthetic derivative thereof; glycine; alanine; serine; cysteine; threonine; valine; leucine; isoleucine; methionine; phenylalanine; tyrosine; tryptophan; glutamine; asparagine; glutamate; aspartate; histidine; lysine; arginine; and tert-leucine or β-hydroxyvaline.

16. (amended) A chemical compound or composition according to claim 1 wherein the target β-strand is formed by the Alzheimer's Aβ peptide, and the β-strand-forming section of peptide binds specifically as a β-strand to part or all of the KLVFFAE sequence within the target β-strand in the parallel orientation, thereby

forming a parallel β-sheet complex wherein consecutive residues of the β-strand-forming section of peptide lie directly opposite consecutive residues of the KLVFFAE sequence in the same order.

A6 cont'

17. (amended) A chemical compound or composition according to claim 1 wherein the target β-strand is formed by the Alzheimer's Aβ peptide, and the β-strand-forming section of peptide binds specifically as a β-strand to part or all of the KLVFFAE sequence within the target β-strand in the antiparallel orientation, thereby forming an antiparallel β-sheet complex wherein consecutive residues of the β-strand-forming section of peptide lie directly opposite consecutive residues of the KLVFFAE sequence in reverse order.

A7

19. (amended) A chemical compound or composition according to claim 1 wherein the β-strand-forming section of peptide is preceded by, followed by, or otherwise attached to a distinct membrane-penetrating section of peptide which enables the β-strand-forming section of peptide to cross biological barriers such as cell membranes and the blood-brain barrier.

21. (amended) A chemical compound or composition as claimed in claim 19 wherein the membrane-penetrating section of peptide is made resistant to enzyme-catalysed proteolysis by the inclusion of α-D-amino-acid residues and/or Nα-substituted amino-acid residues.

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22. (amended) A chemical compound or composition according to claim 1 wherein the β-strand-forming section of peptide has a free or acylated N terminus and a free, amidated, or esterified C terminus, or forms part of a larger peptide which has a free or acylated N terminus and a free, amidated, or esterified C terminus.

23. (amended) A chemical compound or composition according to claim 1 wherein the β-strand-forming section of peptide is attached to another functional component.

25. (amended) chemical compound or composition according to claim 23, wherein attachment of the β-strand-forming section of peptide to the functional component is by means of an amide or ester linkage formed with the C-terminal carboxyl group or N-terminal amino group of the full peptide, or with a carboxyl, amino, or hydroxyl group of a side chain within the full peptide, or by means of a disulphide bridge formed with a thiol group of a side chain within the full peptide.

26. (amended) A chemical compound or composition according to claim 1 wherein the β-strand-forming section of peptide associates with a target β-strand comprising the amino-acid sequence KLVFF (SEQ. ID. NO. 1).

27. (amended) A chemical compound or composition according to claim 1 comprising one or more components which mimic the structure and action of said β-strand-forming section of peptide, wherein the components are formed by replacing one or more of the backbone peptide groups or side-chain groups of the β-strand-forming section of peptide by another chemical group of similar stereochemistry and ability to form favourable non-covalent interactions with the target β-strand.

29. (amended) A method for inhibiting or reversing the association of a target β-strand into a β-sheet or β-fibre, comprising exposing the target β-strand to a chemical compound or composition according to claim 1 and allowing or inducing the chemical compound or composition to associate with the target β-strand.

30. (amended) The use of a chemical compound or composition according to claim 1 in the manufacture of a medicament for

inhibiting or reversing the association of a target β-strand into a β-sheet or β-fibre.

31. (amended) A method for inhibiting or reversing the aggregation of proteins or peptides, comprising contacting the proteins or peptides with a chemical compound or composition according to claim 1.

32. (amended) The use of a chemical compound or composition according to claim 1 in the manufacture of a medicament for inhibiting or reversing the aggregation of proteins or peptides.

33. (amended) A method for assisting in the refolding of denatured or aggregated proteins or peptides, comprising contacting the aggregated proteins or peptides with a chemical compound or composition according to claim 1.

34. (amended) The use of a chemical compound or composition according to claim 1 in the manufacture of a medicament for assisting in the refolding of denatured or aggregated proteins or peptides.

35. (amended) The use of a chemical compound or composition according to claim 1 in the preparation of a composition for the diagnosis, study, or treatment of a disease caused by the aggregation of proteins or peptides.

36. (amended) A method for inhibiting the oligomerisation or association of protein subunits, comprising exposing the protein subunits to a chemical compound or composition according to claim 1.

37. (amended) The use of a chemical compound or composition according to claim 1 in the manufacture of a medicament for inhibiting the oligomerisation or association of protein subunits.

38. (amended) The method of claim 36 applied to inhibit the oligomerisation of an enzyme whose catalytic activity depends on its oligomerisation by the association of β-strands.

39. (amended) A method for indicating the presence or location of β-strands, β-sheets, or β-fibres, comprising exposing a test sample to a chemical compound or composition according to claim 1 which comprises a detectable moiety.

40. (amended) The use of a chemical compound or composition according to claim 1 which comprises a detectable moiety, in the manufacture of an agent for indicating the presence or location of β-strands, β-sheets, or β-fibres.

41. (amended) A method for affinity or protein-renaturation chromatography, comprising the steps of covalently attaching a chemical compound or composition according to claim 1 to a solid matrix, resin, or support; passing a test sample over the column; and separating the desired treated product from the column.

42. (amended) A combinatorial library comprising chemical compounds or compositions according to claim 1.

43. (amended) A pharmaceutical compound or composition according to claim 1.

44. (amended) A method of diagnosing, studying or treating a disease caused by the aggregation of proteins or peptides, comprising contacting the proteins or peptides with a chemical compound or composition according to claim 1.